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**A NEW SPECIES OF ENCHYTRÆID WORM FROM THE WHITE MOUNTAINS.**

BY R. SOUTHERN, B.Sc.

In the late summer of 1907, after the meeting of the International Zoological Congress at Boston, Dr. Scharff visited the White Mountains in New Hampshire. He informs me that earthworms were very rarely met with in the forests at elevations of 2,000–3,000 feet, but he succeeded in finding a few specimens of *Helodrilus* (*Dendrobæna*) *rubidus* Savigny, *forma typica*, under the bark of trees. The typical form of this species has not yet been recorded with certainty from North America. Michaelsen, in 1900,<sup>1</sup> doubtfully includes North America, but later<sup>2</sup> he confines its distribution to Europe and Asia. The variety *subrubicunda* (Eisen) is widely distributed over the whole Northern Hemisphere. The typical form is endemic in the British Isles, Germany, France, Switzerland, Siberia and Iceland. Its occurrence on the latter island and on the eastern side of North America is interesting with reference to theories of a former land connection between Europe and North America by way of Iceland and Greenland.<sup>3</sup> After a close examination of the American specimens, I was unable to find a single character distinguishing them from the same species, which occurs commonly in Ireland.

In some damp moss, in which Dr. Scharff brought back some living slugs and newts from the White Mountains at an elevation of 2,000 feet, I found a single mature specimen of an Enchytræid worm which appears to be new to science, and for which I propose the name

***Henlea scharffi* sp. n.**

It is 10 mm. long, and milky-white in color. The epidermis of the prostomium and first segment is covered with small glandular papillæ. The clitellum is formed by a mosaic of large granular glands, and occupies the 12th segment. In the anterior ventral bundles there are 5 setæ, which are approximately equal in length, slightly curved,

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<sup>1</sup> *Das Tierreich, Oligochæta*, Lief. 10, 1900, p. 490.

<sup>2</sup> *Die Geographische Verbreitung der Oligochæten*, Berlin, 1903, p. 140.

<sup>3</sup> R. F. Scharff, On the Evidences of a Former Land-bridge between Northern Europe and North America, *Proc. Royal Irish Academy*, Vol. XXVIII, B, 1909, p. 1.

and widely separated at the base. The head-pore is situated between the prostomium and first segment.

The brain (fig. 1) is concave before and behind. The length exceeds the breadth, and the greatest breadth is near the posterior end. No salivary glands were observed. The coelomic corpuscles are large, flat, broadly oval to circular disks.

The intestine widens out somewhat gradually at the beginning of the 9th segment. There are no intestinal pouches. The dorsal vessel rises in the 9th segment, and the blood is colorless. Three pairs of septal glands are present in the 4th, 5th and 6th segments.

The nephridia (fig. 2) have a large anteseptal, somewhat longer than broad. The postseptal is 2 to 3 times as long, and the duct,

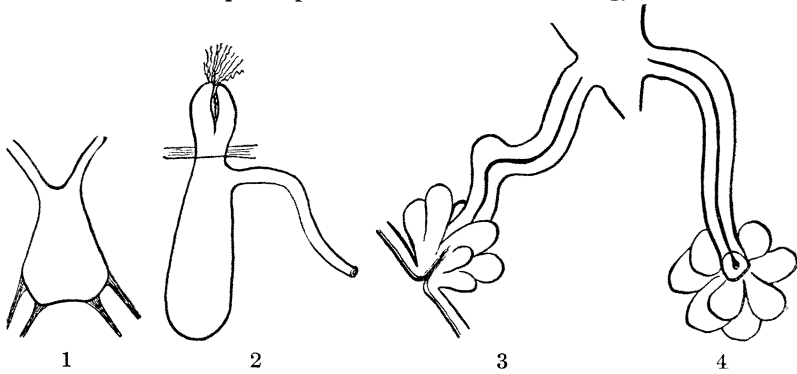


Fig. 1.—*Henlea scharffi* sp. n. The brain.

Fig. 2.—The nephridium.

Fig. 3.—The spermatheca.

Fig. 4.—The spermatheca seen through the body of the worm.

which equals the postseptal in length, rises from the anterior end. The spermathecae, which lie in the 5th segment, are long and slender, showing no differentiation into duct and ampulla (figs. 3 and 4). The opening to the exterior is surrounded by a large rosette of glands. Fig. 4 shows this from the inside.

This description is very inadequate, owing to the lack of material, but sufficient was seen to differentiate this form from all other species of the genus. *H. scharffi* is characterized by the structure of the nephridia and spermathecae, the number of setae, the place of origin of the dorsal vessel, and the absence of salivary glands and intestinal pouches.

This species falls into that somewhat unsatisfactory section of the genus which is characterized by the absence of intestinal pouches. This group includes:

1. *Henlea dicksoni* (Eisen).

2. *H. rosai* Bretscher.
3. *H. pratorum* Br.
4. *H. sulcata* Br.
5. *H. lefroyi* Beddard.
6. *H. dorsalis* Br.
7. *H. rhætica* Br.
8. *H. stolli* Br.

None of these species have yet been recorded from North America. They may be separated as follows:

- |  |  |  |                     |
|--|--|--|---------------------|
| 1. Salivary glands   | $\left\{ \begin{array}{l} \text{present} \dots\dots\dots 2. \\ \text{absent} \dots\dots\dots 6. \end{array} \right.$ |  |                     |
| 2. No sharp distinction between œsophagus and intestine.....     |  | <i>H. lefroyi</i> .  |                     |
|  |  | Very sharp distinction between œsophagus and intestine.....  | 3.                  |
| 3. Nephridial duct rises at the front end of the postseptal..... | <i>H. dicksoni</i> .   |  |                     |
|  |  | Nephridial duct rises at the back end of the postseptal..... | 4.                  |
| 4. Dorsal vessel rises in the 8th segment.....                   | <i>H. rosai</i> .  |  |                     |
|  |  | Dorsal vessel rises in the 7th segment.....                  | 5.                  |
| 5. Nephridia with broad anteseptal.....                          | <i>H. pratorum</i> .   |  |                     |
|  |  | Nephridia with small anteseptal.....                         | <i>H. sulcata</i> . |
| 6. Swelling of gut in the 8th segment.....                       | 7.   |  |                     |
|  |  | No swelling of gut in the 8th segment.....                   | 8.                  |
| 7. Setæ of anterior ventral bundles 4-6.....                     | <i>H. dorsalis</i> .   |  |                     |
|  |  | Setæ of anterior ventral bundles 6-8.....                    | <i>H. rhætica</i> . |
| 8. Spermathecae uniform in width; dorsal vessel rising in the    |  |  |                     |
| 9th segment.....   | <i>H. scharffi</i> .   |  |                     |
|  |  | Spermathecae differentiated into duct and ampulla; dorsal    |                     |
|  |  | vessel rising in the 8th segment.....                        | <i>H. stolli</i> .  |

Members of this genus are characterized by the sudden change in diameter of the gut, where the œsophagus passes into the middle intestine, and by the frequent presence at this point of intestinal outgrowths or pouches. In *H. scharffi* these pouches are absent and the change in diameter is gradual, and is spread over half a segment. In this feature it bears some resemblance to the species *H. lefroyi*, described by Beddard<sup>4</sup> from India. In the latter species Beddard—working on preserved material—found that the œsophagus passed without any abrupt change in dimensions into the middle gut. The two species also resemble each other in being without the intestinal pouches. The genus *Henlea* includes a somewhat heterogenous assembly of species, and will probably be found to contain several distinct generic types. However, the present species may be placed provisionally in this genus.

The type-specimen is preserved in the Irish National Museum, Dublin.

<sup>4</sup> *Proc. Zool. Soc. London*, 1905, II, pp. 61-64.